

Industrial Decarbonisation Strategy summary

March 2021

The Industrial Decarbonisation Strategy offers a positive direction and comprehensive take on the measures that need to be put in place to help the sector decarbonise in a way that boosts competitiveness and innovation. However, there is no clear sense of what the next steps are in terms of innovation funding support over the coming years or whether government thinks that current funding support is sufficient.

Generally, the Strategy announces limited new grants or funding schemes to support the level of ambition described. In addition, a lot of the measures (e.g. implementation of product standards, the level of free allowances under UK ETS) will be the subject of upcoming consultations, which can influence the implementation timelines and final level of ambition.

The **level of ambition** is a bit lower than what the CCC recommends (the Strategy commits to at least 2/3 emissions reductions by 2035, whereas the CCC recommends a reduction of 78% in their Sixth Carbon Budget).

Key timelines

- The design of a **net zero-aligned ETS** will commence this year, but according to the Strategy the cap on allowances will be aligned with net zero by January 2024. A consultation on the cap, sectors covered and free allowances will be published later this year.
- Two **carbon capture clusters** will be in place by 2025, with two more by 2030 and the world's first net zero cluster achieved by 2040, through the £1 billion CCS Infrastructure Fund, as announced in the Ten Point Plan. Hydrogen will be rolled out alongside CCS in these clusters.
- By 2050, the aim is to have **zero avoidable waste** of materials across heavy industries.

Expectations

- Four major industrial regions will be linked to the necessary decarbonisation infrastructure by 2030 (i.e. hydrogen or CCUS networks where applicable, otherwise ensuring that the infrastructure needed for electrification is in place).
- Tackling **residual emissions**: 3MtCO₂ of emissions captured each year by 2030 (CCC recommends CCS reductions of 6MtCO₂ per year in 2035, increasing to 9 MtCO₂ by 2045), in addition to planting 500m trees.
- **Fuel switching** with hydrogen, electricity and bioenergy replacing fossil fuels, unless combined with CCS – 20 TWh / year of fossil fuel use will be replaced with low carbon alternatives by 2030.
- Achieving '**maximum energy, resource and material efficiency**' in industry. Some consultations will be announced (further details below), but no clear measures to deliver that in the strategy itself.
- Developing a market for low carbon materials.
- Supporting workers to take advantage of this transition.
- Cooperate with other nations in support of these efforts.

Note that **these expectations will be reviewed with the publication of the Net Zero Strategy.**

- Government commits to working with the Steel Council to consider the implications of the recommendation of the CCC to **set targets for ore-based steelmaking to reach near-zero emissions by 2035**. It is very welcome to see the start of this work and the potential set these targets, but there remains a need to ensure these targets are actually set and not delayed on account of potential implications related to cost or competitiveness. Rather, a supportive policy framework and accompanying market mechanisms will need to be devised alongside these targets to ensure a smooth transition for businesses in the sector.
- Worth noting that government explains its approach by saying more intervention will be needed in the 2020s (e.g. through setting up the necessary infrastructure, establishing the UK ETS, creating a market for low carbon materials), but less in the 2030s and 2040s (it assumes less funding needed for demonstrating key technologies and that the infrastructure will be in place, with a role still to play around emissions trading and product regulation policies). In support of this, the Strategy announces that business models contributing towards these costs will be published in 2021 for CCUS and in 2022 for low carbon hydrogen.
- This shows the need for setting the targets as early as possible, and committing the required levels of funding early on in the 2020s as a lot of the infrastructure needed requires years of feasibility studies so it is unlikely to be completed by the 2030 mark. Also note that **Project Speed is seen as having a role here in accelerating infrastructure delivery.**

Business models

- Developing a CfD-like model for **carbon capture**, to cover operational costs, transport and storage fees and a rate of return on capital investment. This is to be finalised in 2021 and implemented from 2022.
- **Transport and storage** will be supported by a regulatory investment business model. The regulatory framework will support a stable index linked model which will underpin investment returns, supported, where needed, by appropriate levels of government intervention.
- **Hydrogen:** government will consult on the right business models this year, with the final model to be agreed in 2022. Government will also be working with industry to **develop a standard for low carbon hydrogen**, with more details to be provided in the Hydrogen Strategy.
- **Electricity prices:** a consultation will be launched in April on affordability and fairness, to also cover the issue of high industrial electricity prices.
- DACCS, BECCS and afforestation will all play a role in tackling residual emissions, and the **role of UK ETS in incentivising GGR deployment** will be explored.
- Under the UK ETS, a proportion of allowances are also allocated for free, with the initial approach similar to that of the EU ETS (Phase IV), to be reviewed as part of the UK ETS 2021 review.

Demand-side measures

- Launch a **call for evidence on low carbon industrial products** within the next year, which will look at data transparency on levels of embodied carbon and how that data can be used to help implement demand-side policies. A proposal is set to be developed by 2023.
- There will be consideration given to **voluntary product standards**, potentially to be implemented by 2025. Aldersgate Group will be very active in advocating for ambitious standards and will respond to all upcoming relevant consultations.
 - Note that **mandatory standards can be used differently to voluntary standards** to set an upper limit on the emissions associated with industrial products, as opposed to recognising the best performing manufacturers in the market.
- Mandatory product standards could be introduced in the mid-late 2020s (subject to consultation), initially aimed at **intermediate industrial products**. In the run up to 2050, mandatory standards could become incrementally more stringent.
- Government commits to bringing together a coalition of willing countries to **use public procurement to drive demand for low carbon products**. The initiative is already being developed ahead of COP26, supported by United Nations Industrial Development Organisation and other countries. Aldersgate Group is supportive of using procurement tools to drive demand for low carbon products and will seek to get involved and support this initiative.

Tech & infrastructure

Industrial Clusters

- To minimise the cost of the transition, CCUS/hydrogen infrastructure will be built in the clusters first, where multiple industrial sites can use it, including the industrial sectors of the future. This will be supported by the £172 UKRI-led Industrial Decarbonisation Challenge.
- The Strategy talks a lot about government remaining technology neutral. In the case of steel, this leaves ore-based steel making with CCS as net zero-aligned, with a role for the mining sector to ensure the mining of iron ore is net zero compliant as well.

Dispersed sites

- In **dispersed sites**, reductions will come from energy efficiency in the 2020s, with fuel switching and electrification (heat pumps) being deployable now and repurposing the gas grid for low carbon hydrogen in the longer term.
- The **role of CCUS is less certain**, and may become more feasible as a more widespread T&S network is established, and then larger dispersed sites will be prioritised. Note that some dispersed sites are located in protected areas, so it will be difficult to connect them to CCUS infrastructure.
- Deeper decarbonisation of these sites will only be achieved from 2030s onwards, and then rapid progress will need to be made, so government will work with industry to:
 - ensure the sites are retrofit-ready;
 - explore options for cement decarbonisation, as CCUS is essential to remove emissions from limestone calcination (process emissions);
 - boost engagement with decarbonisation policies amongst less energy intensive industries in dispersed sites;
- Project Speed is seen as essential to enable this.

- There is a mention of the **intention to align the decarbonisation agenda with environmental objectives**: e.g. biomass could have unintended consequences for broader emissions including air quality. Therefore, it is important that the deployment of new decarbonisation technologies and associated policies consider wider environmental outcomes, such as air quality and water conservation.

Efficiency

- Looking to encourage the use of energy efficiency measures across businesses and **developing a new voluntary ISO standard**, ISO 50005, that allows companies with limited resources to take a phased approach in implementing energy management systems.
- The Strategy mentions the need for **financial support and technical assistance**, especially for SMEs looking to take up energy efficiency measures, plus a comms campaign making businesses aware of the support already available.
- It also mentions the need to draw on the Environment Bill and the Resources and Waste Strategy (see Aldersgate Group's summary of the Waste Prevention Programme) to improve material efficiency and reduce pressure on natural resources:
 - supporting a new **£30 million UKRI Circular Economy Research Programme** that takes an inter-disciplinary approach in developing solutions that will help industry to innovate and develop best practice.
- already commissioned early-stage research on how a facilitated industrial symbiosis network could operate in the UK.

International cooperation

- recognition of the need to support industrial decarbonisation through trade policy through:
 - maintaining both parties' **right to regulate** in pursuit of decarbonisation;
 - improving market access for low carbon technologies, services and systems by tackling both **tariff and non-tariff barriers** to trade (e.g. certification of low carbon industrial products);
 - supporting greater collaboration on decarbonisation, such as exploring opportunities for practical **cooperation on carbon pricing**, including through possible linking of emissions trading systems;
 - addressing **unfair industrial subsidies**, which distort markets and prevent long term, low carbon investments;
- The Strategy recognises the export opportunities afforded by industrial decarbonisation, plus the job creation potential associated with it.
- Committed to deploy **UKEF's £2 billion Clean Growth Direct Lending Facility** to international clean growth projects and create export opportunities for the UK supply chain through UKEF's network of international export finance executives, connecting UK suppliers and providing trade finance support to enable SMEs across the whole of the UK to internationalise their activities.

Levelling up

- Institute for Apprenticeships and Technical Education has set up a **Green Apprenticeship Advisory Panel**, which Aldersgate Group participates in, to inform the Institute's strategy on apprenticeships and the creation of new apprenticeships suited to a low carbon workforce.

- Recognition of the need to develop **UK-based supply chains** to enable job creation and skills investment.
- There is scope for the UK to achieve competitive advantage in the industrial sectors of the future, for example speciality chemicals and production of electric vehicles.
- **High Potential Opportunities** (HPOs) are one of several investment support programmes designed to promote foreign investment into innovative areas of the economy – Manchester has potential to become a ‘super-centre’ for sustainable packaging design and manufacture in the food and drink sector.
- To support further investment in the UK:
 - new **Office for Investment**, encouraging foreign investment into the UK and ensuring that this drives economic recovery and growth across the UK;
 - recently announced **‘Investment Champions’** across the Midlands Engine and Northern Powerhouse, helping to showcase the region’s strengths and attract foreign investment.